

REMARKS

Claims 1-49 were pending in the present application. Claims 8-10, 12-25, 33-35, 39-41 and 46-49 were withdrawn from consideration. By virtue of this response, claims 4, 5, 26 and 47 have been amended. Accordingly, claims 1-7, 11, 26-32, 36-38, and 42-45 are currently under consideration.

The specification has been amended to correct errors in the application. In paragraph [0016], $-(\text{CR}^{17}\text{R}^{18})\text{m}-$ is amended to remove m, $-\text{C}(\text{OH})\text{CH}(\text{NHR}^{17})-$ is amended to $-\text{CH}(\text{OH})\dots$ to correctly include an omitted hydrogen, $\text{C}(\text{O})\text{NR}^{17}-$ is amended to $-\text{C}(\text{O})\text{NR}^{17}-$ to add the omitted attachment point, $-\text{C}(\text{CHR}^{17}\text{R}^{18})\text{S}-$ and $-\text{C}(\text{CH}(\text{CH}_3)_2)\text{Si}(\text{CH}_3)_2-$ are amended to $-\text{CH}(\text{CH}\dots$ to correctly include an omitted hydrogen and $-\text{CH}(\text{OH})\text{CH}_2(\text{CO}_2\text{R}^{17})-$ and $-\text{C}(\text{O})\text{CH}_2(\text{CO}_2\text{R}^{17})-$ are amended to remove a hydrogen from the carbon that mistakenly has 5 bonds. One of ordinary skill in the art would recognize these amendments as correcting obvious errors in the original language. Analogous structures in paragraph [0058] are amended similarly.

Claim 4 has been amended to include suitable counterions for the charged moieties. This is supported in part by the disclosure in paragraph [0092], which discusses hydrophilic groups that include carboxylic acids and salts thereof, ammonium salts, sulfonium salts and the like. One of ordinary skill in the art would understand that some hydrophilic groups, in particular the amended structures of the claim, are salts having a suitable counterion.

Claim 5 has been amended to correct errors made in the original language. With respect to the variable m, this has been deleted from the claim. With respect to $-\text{C}(\text{OH})\text{CH}(\text{NHR}^{17})-$, $\text{C}(\text{O})\text{NR}^{17}-$, $\text{CH}(\text{OH})\text{CH}_2(\text{CO}_2\text{R}^{17})-$, $-\text{C}(\text{CHR}^{17}\text{R}^{18})\text{S}-$ and $-\text{C}(\text{CH}(\text{CH}_3)_2)\text{Si}(\text{CH}_3)_2-$ and $-\text{C}(\text{O})\text{CH}_2(\text{CO}_2\text{R}^{17})-$, these are amended to correct what would be considered clear errors to one of ordinary skill in the art. These are mainly amended to add or delete a hydrogen in order to provide the correct valency of the indicated carbon atom. $\text{C}(\text{O})\text{NR}^{17}-$ was amended to indicate the point of attachment to the first carbon atom, which is clearly the intended attachment point based on all other similarly designated structures, wherein the first atom listed is an attachment point. The amendments to claim 47 are analogous to these amendments.

Claim 26 has been amended to change "One" to "one" as a capital is improper. Further the language relating to either R being a group that confers a selected characteristic or A and L being substituted by such a group has been deleted as it is not necessary to define the claimed amphiphilic modules.

Claims 42 and 44 have been amended to remove dependency on withdrawn claims.

Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. No new matter has been added.

Concerning the Election/Restrictions

Applicants note that should any generic linking claims be found allowable, the Manual of Patent Examining Procedure, Eighth Edition § 809, requires that any nonelected claims previously withdrawn from consideration, which depend from or include all limitations of the allowable claim must be rejoined and examined for patentability.

Concerning the Information Disclosure Statement

A proper information disclosure statement will be filed.

Rejections under 35 U.S.C. §112

The Office has rejected claims 1-7, 11, 26-32, 36-38, and 42-45 as failing to comply with the enablement requirement. The Office Action states that the disclosure does not adequately describe the cyclic synthons in such a way that one of ordinary skill in the art would know how to prepare the various compositions of the claims. Further, it states that the examples show compounds having only phenylene and cyclohexane rings and that there is no teaching of how to make the magnitude of possible compounds claimed and that, for example, starting materials such as pyridine rings, bicycle [2.2.1]heptene rings, 1,3-diazabicyclo[2.2.1]heptane rings, etc. are not taught. The Office

Action states that in view of the lack of direction regarding starting materials, the lack of working examples, and the general unpredictability of chemical reactions, it would take an undue amount of experimentation for one skilled in the art to make the claimed compositions. Applicants respectfully traverse this rejection. Several schemes for the synthesis of core synthons are provided in Schemes 1-6 on pages 27-33, including 1,3-diaminocyclohex-5-ene, 1,2-diaminonorborane, and 1,3-diaminonorborane (the latter two are bicyclic[2.2.1]heptenes). The specification teaches the requirements for the synthons, e.g. the linking groups and other desired moieties, and demonstrates how to make certain synthons. The specification also demonstrates how to react such synthons to provide the amphiphilic modules, for example in Schemes 7 and 8 on pages 33-37, as well as the examples on pages 64-66. These provide working examples where the synthons are phenylene and cyclohexane rings. Based on the teaching of what is needed and how to make certain synthons, and how to react them to form the desired amphiphilic modules, one of ordinary skill in the art could prepare additional synthons required in order to make the compounds of the invention. The Office Action states a general unpredictability of chemical reactions. Applicants suggest that the reactions necessary to provide suitable synthons are sufficiently predictable from the guidance given by the reaction schemes and examples in the specification. Additional starting materials comprising other possible rings are known to those of ordinary skill in the art or can be readily prepared following the teachings of the specification. As such, it would not require undue experimentation for one skilled in the art to make the claimed compositions. Applicants respectfully request withdrawal of this rejection.

Claims 4, 5 and 26-29 are also rejected under 35 U.S.C. §112, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Office Action states that claim 4 is vague and indefinite in that it is not known what is meant by $-\text{NRR}'\text{R}''$, $-\text{SO}_3^-$, $-\text{OPO}_2^{2-}$, $-\text{C}(\text{O})\text{O}^-$. The claim has been amended to include a suitable counterion to balance the charge for these substituents.

The Office Action states that claim 5 is vague and indefinite for several reasons; that it is not known what is meant by m, that the structures $\text{-C(OH)CH(NHR}^{17}\text{)-}$, and $\text{-C(CHR}^{17}\text{R}^{18}\text{)S-}$ have only three bonds to the first carbon (Applicants note that the structure $\text{-C(CH(CH}_3\text{)}_2\text{)Si(CH}_3\text{)}_2\text{-}$ also has only three bonds to the first carbon), that the structures $\text{-CH(OH)CH}_2\text{(CO}_2\text{R}^{17}\text{)-}$ and $\text{-C(O)CH}_2\text{(CO}_2\text{R}^{17}\text{)-}$ have five bonds to the second carbon, and that the structure C(O)NR^{17} lacks a second attachment point, and that it is not known what is meant by “a group that confers a selected chemical or physical characteristic”. This claim has been amended accordingly to remove the limitation of m, to correct the valency of the carbon atoms in the indicated structures, to include the necessary attachment point, and to delete the language “a group that confers a selected chemical or physical characteristic”.

The Office Action states that claim 26 is vague and indefinite in that it is not known what is meant by the definition that begins with a capital letter, i.e. One, also that it is not known what is meant by “a group that confers a selected chemical or physical characteristic” as it relates to R and “substituents that confers a selected chemical or physical characteristic” as it relates to A and L. This claim has been amended to remove the capital and to delete the language relating to conferring a selected characteristic. As claims 27-29 are dependent on this claim, these claims are sufficiently defined.

Based on the amendments and arguments as discussed above, Applicants suggest that claims 4, 5 and 26-29 are definite and respectfully requests withdrawal of the rejection of those claims as being indefinite.

Rejections under 35 U.S.C. §102(b)

Claims 1, 2, 4-7, 11, 26-31 and 42-45 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Korupoju et al. (Chemical Communications).

Applicants respectfully traverse this rejection. Claim 1 includes the limitation that one or more lipophilic moieties is bonded to one or more synthons. The Korupoju reference does not include such lipophilic moieties. Claim 1 is not anticipated by this reference. As claims 2, 4-7, 11,

and 26-29 all include this limitation of claim 1, they are not anticipated by the reference. Claims 30-31 include substituent R¹ on the phenyl rings of the amphiphilic module, where R¹ is selected from a variety of lipophilic moieties. As discussed above, the reference does not anticipate these claims. Claims 42-45 are method of synthesis claims for making the modules of claims 1 and 30. As claims 1 and 30 are not anticipated for the reasons discussed above, the method of synthesis claims 42-45 are not anticipated.

Applicants respectfully request that this 102(b) rejection be withdrawn.

Double Patenting

Claims 1-7, 11, 26-32, 36-38 and 42-45 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-40 of copending Application No. 10/226,400. As this is a provisional rejection, Applicants will take appropriate action upon allowance of claims in the copending application.


CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 529212000300. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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